

REMARKS

Applicants have previously canceled claim 21, amend claims 1-4, 8, 9, 12, 13, 15, 20, 25, and 27, and add claim 28 such that claims 1-20, and 22-28 are pending in this application. Applicants respectfully request allowance of all the pending claims.

Applicants appreciate the Examiner's indication that claims 16, 17, and 18 contain allowable subject matter.

Claims 2, 3, 8, 13, 22, 25, and 27 have been amended to correct typographical errors.

Claim Rejections – 35 U.S.C. §112, second paragraph

The Examiner rejects claims 12, 15, 20, and 22-27 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner rejects claim 12 as being redundant of claim 9, and that the phrase "is pivotally mounted to the at least one lift arm" should be canceled from claim 12. Claim 12 has been amended to remove the redundancy indicated by the Examiner.

The Examiner rejects claim 15 as being incomplete because it sets forth a desired result but fails to include the structure that provides the result. Claim 15 has been amended to clarify that the first attachment is attached to the lift arm without being attached to the frame such that the lift arm can be moved to raise or lower the first attachment without a change in relative position between the first attachment and the at least one lift arm. Applicants believe that amending claim 15 in this manner clearly sets forth the structure requested by the Examiner.

The Examiner rejects claim 20 as being indefinite due to hyphens above commas, and because there is a lack of an "a" before "solid" in line 5. Applicants have amended claim 20 to clarify that the commas are canceled from the claim. Applicants have also inserted the "a" in the position requested by the Examiner.

The Examiner also rejects claims 23 and 26 as being indefinite because the subject matter of these claims contradict the subject matter of claim 20. Specifically, the Examiner states that claims 23 and 26 are directed to one species (Fig. 10), and that claim 20 is directed to another species (Fig. 3). However, Applicants respectfully argue that claim 20 is generic with regard to the species indicated by the Examiner, and as such, claims 23 and 26 do not contradict claim 20. The Examiner has not pointed to the contradictory subject matter

contained in claims 23 and 26 as compared to claim 20, and Applicants discern no such contradiction.

The Examiner rejects claims 25 and 27 as indefinite for lacking a clear antecedent basis for the phrase "the loader." Applicants have amended claim 25 to clarify that "the loader" actually refers to "the loader frame." In addition, Applicants have amended claim 27 to clarify that "the loader" refers to "the loader arm."

Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. §112, second paragraph be withdrawn.

Claim Rejections – 35 U.S.C. §102(b)

The Examiner rejects claims 1-3, 5, 8, and 20 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 2,624,481 ("Richey").

The Examiner rejects claim 4 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,647,721 ("Rohrbaugh"), or alternatively as being anticipated by United States Patent No. 4,725,189 ("Langenfeld et al.").

The Examiner rejects claims 9-11, 13-15, 20, and 22-26 under 35 U.S.C. §102(b) as being anticipated by British Patent No. 757,638 ("638 patent").

Independent Claim 1

Amended independent claim 1 recites, among other things, an attachment for a small loader that has a frame and lift arms pivotally mounted to the loader frame. The attachment includes an attachment support, a first pivot for mounting the attachment support on at least portions of the loader lift arms to move therewith, and at least one solid link attached to the attachment support at a first end proximate to a forward end of the attachment support and attachable to other portions of the loader frame at a second end. Actuation of the actuator causes the outer ends of the lift arms to raise or lower causing relative movement between the lift arms and the other portions of the loader frame to cause tilting of the attachment support about the first pivot to tilt the attachment support forwardly.

Richey discloses a tractor that includes a rear end 10, a rear axle casing 11, rear wheels 12, and a frame 20. The frame 20 is supported in a generally upright position at the rear end of and rigidly secured to the tractor. A boom 26 is attached to the frame 20 for vertical rotational movement. The tractor also includes a linkage connection that powers the boom 26, and lifts a rear end loader container 28 that is attached to the frame construction 20. A lower end of the container 28 is pivotally attached to an end of the boom 26, and an upper

end of the container 28 is pivotally connected to a trip dump linkage that has a link 35 and two short links 36. The two short links 36 are pivotally attached to a top end of the frame 20.

Richey does not teach or suggest, among other things, an attachment that includes a link attached to a support at a first end proximate to a forward end of the support and attachable to other portions of a loader frame at a second end. Rather, Richey discloses a rear end loader with a container that is attached to a rear end of a tractor. There is no attachment support coupled to the container. The link disclosed in Richey is attached to the top of the container, but is not attached to an attachment support. Even if the container in Richey could be considered an attachment support, a contention with which Applicants disagree, Richey fails to show a link that is attached to the container at a first end that is proximate to a forward end of the container. The link disclosed in Richey is attached to a top, rearward portion of the container. The attachment location of the link is not proximate to a forward end of the container.

In view of the foregoing, Richey does not teach or suggest the subject matter defined by independent claim 1. Accordingly, independent claim 1 is allowable. Claims 2, 3, and 5-8 depend from allowable claim 1 and are allowable for these and other reasons.

Independent Claim 4

Amended independent claim 4 recites an attachment for a small loader that has a frame and lift arms pivotally mounted to the frame. The attachment includes an attachment support, a first pivot for mounting the attachment support on at least portions of the lift arms, at least one link attached to the attachment support proximate to a forward end of the attachment support and attachable to other portions of the loader frame at second pivots, and a cylinder acting between the at least one link and the lift arms for causing pivotal movement of the attachment support about the first pivot to the lift arm.

Rohrbaugh discloses a bucket assembly implement 91 that is coupled to a platform of a self-contained machine 90. The implement 91 is attached to the platform such that it pivots about axis 76, and rotates using a roller chain 41. The implement 91 includes scissor-type linking arms 77 coupled to a bucket 43, a lift cylinder 78, an extend cylinder 80, and a bucket tilt cylinder 82 that operate the linking arms 77. The scissor-type linking arms 77 are attached to a lift arm (unnumbered) and allow the bucket 43 to move forward without moving the entire machine 90.

Rohrbaugh does not teach or suggest, among other things, a first pivot for mounting an attachment support on at least portions of lift arms, and at least one link attached to the

attachment support proximate to a forward end of the attachment support and attachable to other portions of a loader frame at second pivots. Rather, Rohrbaugh discloses linking arms that attach to a rearward portion of the bucket. The linking arms do not attach proximate to a forward end of the bucket. In addition, both linking arms disclosed in Rohrbaugh attach to the lift arms. The linking arms do not attach to other portions of the loader frame at second pivots. There is no teaching or suggestion in Rohrbaugh of a link attached to the bucket proximate to a forward end of the bucket, or a link attachable to portions of the frame of the implement other than the lift arms.

In view of the foregoing, Rohrbaugh does not teach or suggest the subject matter defined by independent claim 4. Accordingly, Applicants respectfully request that the rejection of independent claim 4 under 35 U.S.C. §102(b) as being anticipated by Rohrbaugh be withdrawn.

Langenfeld discloses a tractor 10 that includes a three-point hitch assembly 12 coupled to a rearward end of the tractor 10. The hitch assembly 12 includes a pair of lower link arms 14, 16 pivotally attached to the tractor 10, and an upper link arm 18 also pivotally attached to the tractor 10. The tractor 10 also includes a loader bucket assembly 22 coupled to the lower link arms 14, 16, and the upper link arm 18 via cylinders 52, 54.

Langenfeld does not teach or suggest, among other things, a first pivot for mounting an attachment support on at least portions of lift arms, and at least one link attached to the attachment support proximate to a forward end of the attachment support and attachable to other portions of a loader frame at second pivots. The link arms disclosed in Langenfeld attach to a rearward portion of the bucket. The linking arms do not attach proximate to a forward end of the bucket. There is no teaching or suggestion in Langenfeld of a link attached to the bucket proximate to a forward end of the bucket.

Langenfeld also does not teach or suggest a cylinder acting between the at least one link and the lift arms for causing pivotal movement of the attachment support about the first pivot to the lift arm. Rather, Langenfeld discloses a conventional three point hitch on a tractor with cylinders to move the bucket between a dumping position and a non-dumping position. The cylinders are not positioned between the link arms and lift arms. The cylinders are directly coupled to the bucket. Langenfeld discloses a hydraulic system that operates the lower link arms, and does not disclose a cylinder that acts between the links and the link arms of the three point hitch.

In view of the foregoing, Rohrbaugh and Langenfeld do not teach or suggest the subject matter defined by independent claim 4. Accordingly, independent claim 4 is allowable for these and other reasons.

Independent Claim 9

Amended independent claim 9 recites a small loader that includes a frame adapted for movement over a supporting surface. The frame has at least one lift arm that is pivotally mounted to the frame and has an outer forward end can be raised and lowered under power. The loader also includes a first attachment that is attached to the at least one lift arm at a pivotal mounting thereon adjacent and to the rear of the outer forward end of the at least one lift arm such that the center of gravity of the first attachment is shifted to its rearmost position and located rearwardly of the outer forward end of the at least one lift arm with the at least one lift arm in a lowered position.

The '638 patent discloses a tractor 5 that has rear wheels 7, front wheels 8, and a bucket 10. The bucket 10 is supported on the tractor 5 by a linkage that includes a lever 11 pivoted at a forward end 12 to the bucket 10 and at a rear end 12a that is secured to the tractor chassis. The linkage also includes links 17, 18. A cylinder 22 acts on the links 18 to move the arms rearwardly as the arms 17 control the arc in which the links 18 move. The forward end of the arms 11 are attached to a rearward portion of the bucket 10, and is pivoted above pivots 20 that are disposed beneath the plane of the front axle when the bucket 10 is in dozing position. The levers 11 allow the bucket 10 to move in a straight overhead arc over the tractor 5, and the bucket 10 is elevated and swung over the tractor 5 to discharge rearward of the tractor 5. The bucket 10 is moved toward the front of the tractor 5 to the ground for obtaining another load.

The '638 patent does not teach or suggest, among other things, a first attachment that is attached to at least one lift arm at a pivotal mounting thereon adjacent and to the rear of an outer forward end of the at least one lift arm such that the center of gravity of the first attachment is shifted to its rearmost position and located rearwardly of the outer forward end of the at least one lift arm with the at least one lift arm in a lowered position. The '638 patent discloses a bucket that has a center of gravity located in its foremost position when the arms are in a lowered position. The pivots in the '638 patent are not to a rear of an outer forward end of the arms. The bucket is pivotally attached to forward ends of the arms by pivots. The center of gravity of the bucket in the '638 patent is not shifted to its rearmost position, and is not located rearward of the forward ends of the arms when the arms are in a lowered position.

Only when the bucket is high overhead of the tractor does the center of gravity of the bucket appear to be shifted to its rearmost position. The center of gravity is in its foremost position when the bucket is located on the ground in front of the tractor. In addition, the pivots disclosed in the '638 patent are at the ends of the arms, and are not located to the rear of the outer ends of the arms. There is no teaching or suggestion in the '638 patent of an attachment that is pivotally coupled to a lift arm to the rear of an outer forward end of the lift arm. As such, there can be no teaching or suggestion that the center of gravity of the attachment is shifted to its rearmost position and located rearwardly of the outer forward end, in addition to the center of gravity having this position when the lift arm is in a lowered position.

In view of the foregoing, the '638 patent does not teach or suggest the subject matter defined by independent claim 9. Accordingly, independent claim 9 is allowable. Claims 10-19 depend from allowable claim 9 and are allowable for these and other reasons.

Independent Claim 20

Amended independent claim 20 recites, among other things, a work attachment that includes a mounting connectable to a loader arm pivotally attached to and movable relative to a loader frame. The mounting includes a support that has a first pivot mount for operable pivotal mounting to the loader arm and a second pivot mount for operable pivotal connection to a solid link mechanism. The solid link mechanism is operably pivotally connected to the support at a first end proximate to a forward end of the support and adaptable to be pivotally mounted onto a portion of the loader frame at a second end. The first pivot mount is positioned on the loader arm rearward of the portion of the loader frame and forward of the pivotal attachment of the loader arm to the loader frame, and the portion of the loader frame and the first pivot mount are movable relative to each other when the first pivot mount is mounted on the loader arm.

The arguments presented above with regard to claim 1 in view of Richey apply with equal weight to claim 20. Specifically, Richey does not teach or suggest an attachment that includes a link attached to a support at a first end proximate to a forward end of the support and attachable to other portions of a loader frame at a second end. The link disclosed in Richey is attached to a top, rearward portion of the container. Richey fails to show a link that is attached to the container at a first end that is proximate to a forward end of the container.

Richey also does not teach or suggest a first pivot mount that is positioned on a loader arm rearward of a portion of the loader frame and forward of a pivotal attachment of the loader

arm to the loader frame. The attachment of the boom to the container in Richey is not forward of the attachment of the boom to the frame. The boom is attached rearward of the position at which the boom is attached to the frame. The container in Richey is part of a rear end loader assembly positioned almost completely behind the tractor and frame.

In view of the foregoing, Richey does not teach or suggest the subject matter defined by independent claim 20. Accordingly, Applicants respectfully request that the rejection of independent claim 20 under 35 U.S.C. §102(b) as being anticipated by Richey be withdrawn.

The '638 patent does not teach or suggest a solid link mechanism that is operably pivotally connected to a support at a first end proximate to a forward end of the support. Rather, the '638 patent discloses arms and links that are attached to a rear portion of the bucket. The ends of the arms and links attach the bucket to the frame of the tractor. There is no teaching or suggestion in the '638 patent of the arms being coupled to the bucket proximate to a forward end of the bucket.

The '638 patent also does not teach or suggest a link mechanism pivotally connected to a support at a first end and onto a portion of a loader frame at a second end, and a first pivot mount that is positioned on a loader arm rearward of the portion of the loader frame and forward of the pivotal attachment of the loader arm to the loader frame. As discussed above with regard to claim 9, the bucket is attached to ends of the arms and links, and the pivotal attachment of the bucket is not located rearward of the connection of the arms to the tractor. At most, the '638 patent discloses a pivotal attachment of the bucket located directly over the connection of the links to the tractor. Even if the pivotal attachment disclosed in the '638 patent is positioned rearward of the connection of the links to the tractor, the pivotal attachment of the bucket is not also forward of the attachment of the arms to the tractor. In other words, the pivotal attachment cannot be rearward of the connection of the links to the tractor and also forward of the connection of the arms to the tractor.

In view of the foregoing, the '638 patent does not teach or suggest the subject matter defined by independent claim 20. Accordingly, Applicants respectfully request that the rejection of independent claim 20 under 35 U.S.C. §102(b) as being anticipated by the '638 patent be withdrawn.

In view of the foregoing, Richey and the '638 patent do not teach or suggest the subject matter defined by independent claim 20. Accordingly, independent claim 20 is allowable. Claims 22-28 depend from allowable claim 20 and are allowable for these and other reasons.

Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejects claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Richey in view of United States Patent No. 5,813,152 ("Weight").

Claims 6 and 7 depend from independent claim 1. As discussed above with regard to claim 1, Richey does not teach or suggest all of the limitations of claim 1. Weight fails to cure the deficiencies of Richey. Weight discloses a snow blower 55 that includes a housing 15 and an auger member 52 rotatably mounted to an auger shaft 25 inside the housing 15. The snow blower 55 also includes a chisel attachment that has an oscillating blade member 20 to cut through snow.

Weight pertains to a rigid snow blower attachment, and is non-analogous to the field of Applicants' invention and to the field to which Richey pertains. In addition, Weight does not teach or suggest all of the limitations of claim 1. Specifically, Weight does not teach or suggest, among other things, a link that is attached to a support at a first end proximate to a forward end of the support and attachable to other portions of a loader frame at a second end. Therefore, even if there is a motivation to combine Richey and Weight, a contention with which Applicants disagree, the combination of these references fails to teach or suggest all of the limitations of claim 1.

In view of the foregoing, Richey and Weight, alone or in combination, do not teach or suggest the subject matter defined by independent claim 1. As discussed above, independent claim 1 is allowable. Claims 6 and 7 depend from allowable independent claim 1 and are allowable for the same and other reasons.

The Examiner rejects claims 19 and 27 under 35 U.S.C. §103(a) as being unpatentable over the '638 patent in view of United States Patent No. 5,846,084 ("Pitman").

Claim 19 depends from independent claim 1, and claim 27 depends from independent claim 20. The Examiner has not rejected claim 1 in view of the '638 patent. As discussed above, the '638 patent does not teach or suggest all of the limitations of independent claim 9 or independent claim 20, and the arguments presented above with regard to the '638 patent apply with equal weight.

Pitman fails to cure the deficiencies of the '638 patent. Pitman discloses a truck 10 that supports a boom assembly 12, storage compartments 14, and outriggers 16. The boom assembly 12 is pivotally supported on a turret, and includes a base boom 26, an intermediate boom 28, and a bucket 22 coupled to an end of the intermediate boom 28. The boom assembly 12 also includes a linkage structure connected between the base boom 26

and the intermediate boom 28. The linkage structure includes a driving link 62 and a driven link 66 for pivotal movement of the intermediate boom 28 and the bucket 22.

With regard to claim 9, Pitman does not teach or suggest, among other things, a first attachment that is attached to at least one lift arm at a pivotal mounting thereon adjacent and to the rear of an outer forward end of the at least one lift arm such that the center of gravity of the first attachment is shifted to its rearmost position and located rearwardly of the outer forward end of the at least one lift arm with the at least one lift arm in a lowered position. Rather, the bucket in Pitman is attached to an end of the intermediate boom. Although Pitman shows the boom assembly extending off a rear portion of the truck, the forward end of the intermediate boom is where the bucket is attached to the boom. As such, the pivotal attachment of the bucket to the intermediate boom is forward of an outer forward end of the boom. The center of gravity of the bucket is thus located forward of the outer forward end of the intermediate boom, whether the boom is extended outward from the truck or in the storage position.

With regard to claim 20, Pitman does not teach or suggest, among other things, a solid link mechanism that is operably pivotally connected to a support at a first end proximate to a forward end of the support. Rather, an end of the intermediate boom in Pitman is attached to a rear portion of the bucket. There is no teaching or suggestion in Pitman of the boom being coupled to the bucket proximate to a forward end of the bucket.

Pitman also does not teach or suggest a link mechanism that is pivotally connected to a support at a first end and onto a portion of a loader frame at a second end, and a first pivot mount that is positioned on a loader arm rearward of the portion of the loader frame and forward of the pivotal attachment of the loader arm to the loader frame. The boom assembly disclosed in Pitman attaches to a bucket on one end, and to the truck at another end. There is no loader arm or any equivalent thereof in Pitman. The bucket is attached to an end of the boom assembly, and the pivotal attachment of the bucket is not located rearward of anything in Pitman that could be considered a loader arm. Since Pitman is silent with regard to a loader arm in addition to the boom assembly, there can be no teaching or suggestion of a pivot mount that is rearward of the connection of a vehicle frame and that is also forward of a connection of a loader arm to the frame.

In view of the foregoing, Richey and Pitman, alone or in combination, do not teach or suggest the subject matter defined by independent claim 9 or independent claim 20. As discussed above, independent claims 9 and 20 are allowable. Claim 19 depends from

allowable claim 9, and is allowable for the same and other reasons. Claim 27 depends from allowable claim 20, and is allowable for the same and other reasons.

New Claim

Claim 28 has been added. The subject matter of new claim 28 is dependent from claim 20 and is supported by the Specification on pages 8 and 12 (plates 40, 70), and therefore presents no new matter.

As discussed above, Applicants respectfully submit that claim 20 is allowable over the references cited by the Examiner. Claim 28 depends from independent claim 20 and is therefore allowable for these and other reasons.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 1-15, 19, 20, and 22-27, and allowance of pending claims 1-20 and 22-28.

The Examiner is invited to contact the undersigned attorney should the Examiner determine that such action would facilitate the prosecution and allowance of the present application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'TJ Otterlee', with a stylized flourish at the end.

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